

WHAT IS CLAIMED IS:

1. A device for localized contact of a fluid to a target physiological site, said device comprising:
 - (a) a fluid delivery element having a proximal and distal end;
 - (b) a porous region at said distal end of said fluid delivery element through which fluid must flow to contact said target physiological site; and
 - (c) an aspiration element.
2. The device according to Claim 1, wherein said porous region is a porous applicator.
3. The device according to Claim 2, wherein said porous region is a porous fluid flow path.
4. The device according to Claim 3, wherein said porous fluid flow path commences at said distal end of said fluid delivery element and fluid is drawn through said porous flow path by said aspiration element.
5. The device according to Claim 3, wherein a portion of said porous fluid flow path is bounded by a fluid impermeable material.
6. The device according to Claim 2, wherein said porous applicator is a porous tip.
7. The device according to Claim 1, wherein said device includes an external energy application element.
8. The device according to Claim 1, wherein said external energy application

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element is a sonic energy application element.

9. The device according to Claim 1, wherein said device is a percutaneous device.

10. The device according to Claim 1, wherein said device is a open-surgical device.

11. The device according to Claim 1, wherein said device further comprises a second fluid delivery element.

12. A vascular fluid delivery device for localized contact of a fluid with a target vascular site, said device comprising:

- (a) a fluid delivery lumen having a proximal end and a distal end;
- (b) an aspiration lumen; and
- (c) a porous fluid flow path located at said distal end of said fluid delivery lumen such that fluid must flow through said porous fluid flow path to contact said target vascular site and is drawn through said porous fluid flow path by said aspiration lumen.

13. The device according to Claim 12, wherein a portion of said porous fluid flow path is bounded by a fluid impermeable material.

14. The device according to Claim 12, wherein said device further comprises a fluid driving element for driving fluid out of said porous fluid flow path.

15. The device according to Claim 14, wherein said device includes an external energy application element.

16. The device according to Claim 12, wherein said external energy application

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element is a sonic energy application element.

17. The device according to Claim 12, wherein said device further comprises a second fluid delivery element.

18. The device according to Claim 12, wherein said porous fluid flow path is configured to conform to a vascular structure.

19. The device according to Claim 18, wherein said vascular structure is a valve sinus.

20. The device according to Claim 19, wherein said valve sinus is an aortic sinus.

21. A device for locally contacting an aortic valve with a fluid, said device comprising:

- (a) a fluid delivery lumen having a proximal end and a distal end;
- (b) an aspiration lumen; and
- (c) a porous fluid flow path configured to fit inside of an aortic sinus of said aortic valve and located at said distal end of said fluid delivery lumen such that fluid must flow through said porous fluid flow path to contact said aortic valve, wherein fluid is drawn through said porous fluid flow path by said aspiration lumen.

22. The device according to Claim 21, wherein said device comprises a separate porous fluid flow path for each different aortic sinus of said aortic valve.

23. The device according to Claim 21, wherein said device further comprises an aortic valve ventricular side occlusion element.

24. The device according to Claim 23, wherein said aortic valve ventricular side occlusion element is a balloon.

25. The device according to Claim 23, wherein said aortic valve ventricular side occlusion element is a plug.

26. The device according to Claim 21, wherein said device further comprises a shunt element.

27. The device according to Claim 21, wherein said device further comprises a cap element proximal to said porous fluid flow path.

28. The device according to Claim 21, wherein said device further comprises a fluid driving element for driving fluid out of said porous fluid flow path.

29. The device according to Claim 21, wherein said device includes an external energy application element.

30. The device according to Claim 29, wherein said external energy application element is a sonic energy application element.

31. A device for locally contacting an aortic valve with a fluid, said device comprising:

- (a) a fluid delivery lumen having a proximal end and a distal end;
- (b) an aspiration lumen;
- (c) three separate porous fluid flow paths configured to fit inside of an aortic sinus of said aortic valve and located at said distal end of said fluid delivery lumen such that fluid must flow through said porous fluid flow paths to contact said aortic valve, wherein fluid is drawn through said porous fluid flow paths by said aspiration lumen.;

- (d) an aortic valve ventricular side occlusion element;
- (e) a shunt; and
- (f) a cap element.

32. The device according to Claim 31, wherein said device further comprises a fluid driving element for driving fluid out of said porous fluid flow path.

33. The device according to Claim 31, wherein said device includes an external energy application element.

34. The device according to Claim 33, wherein said external energy application element is a sonic energy application element.

35. A method for locally contacting a target site with a fluid, said method comprising:

positioning said porous applicator of a device according to Claim 1 adjacent to said target site; and

flowing said fluid through said porous applicator so that said fluid contacts said target site.

36. The method according to Claim 35, wherein said porous applicator is a porous fluid flow path.

37. The method according to Claim 35, wherein said target site is vascular site.

38. The method according to Claim 35, wherein said fluid is a dissolution solution.

39. The method according to Claim 38, wherein said dissolution solution is a low pH solution.

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40. The method according to Claim 39, wherein said low pH solution is an HCl solution.

41. The method according to Claim 35, wherein said device further comprises a second fluid delivery lumen and said method further comprises contacting a second fluid with said target site.

42. The method according to Claim 41, wherein said second fluid is a dissolution solution attenuating fluid.

43. The method according to Claim 42, wherein said dissolution solution attenuating fluid is a buffer.

44. A system for use in delivering a fluid to a target vascular site, said system comprising:

- a fluid delivery device according to Claim 1;
- a first fluid reservoir housing a first fluid; and
- a vacuum element.

45. The system according to Claim 44, wherein said first fluid is a dissolution fluid.

46. The system according to Claim 45, wherein said dissolution fluid is a low pH fluid.

47. The system according to Claim 46, wherein said low pH fluid is an HCl solution.

48. The system according to Claim 44, wherein said system further comprises a

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second fluid reservoir housing a second fluid.

49. The system according to Claim 48, wherein said second fluid is a dissolution fluid attenuating fluid.

50. The system according to Claim 48, wherein said dissolution fluid attenuating fluid is a buffer.

51. A kit for use in delivering fluid to and removing fluid from a target site, said kit comprising:

- (a) a fluid delivery device according to Claim 1; and
- (b) instructions for using said device to contact fluid with a target site.

52. The kit according to Claim 51, wherein said kit further comprises a dissolution fluid or at least one component thereof.

53. The kit according to Claim 51, wherein said kit further comprises a dissolution fluid attenuating fluid or at least one component thereof.